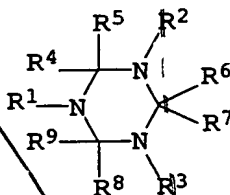


We claim

1. An oligomerization catalyst for olefins, obtainable from

- a) a chromium compound CrX_3 and the at least equimolar amount, based on the chromium compound CrX_3 , of a ligand L or from an existing chromium complex CrX_3L , in which the groups X are, independently of one another, abstractable counterions and L is a 1,3,5-triazacyclohexane of the formula I



where the groups R^1 to R^9 are, independently of one another: hydrogen or organosilicon or substituted or unsubstituted carboorganic groups having from 1 to 30 carbon atoms, where two geminal or vicinal radicals R^1 to R^9 may also be joined to form a five- or six-membered ring, and

- b) at least one activating additive from the group:

- i) an unsubstituted or substituted five-membered aromatic N-heterocycle and at least one aluminum alkyl, some of whose alkyl groups may have been replaced by halogen and/or alkoxy,
- ii) an alkylalumoxane.

2. An oligomerization catalyst as claimed in claim 1, wherein the groups R^1 , R^2 and R^3 in the 1,3,5-triazacyclohexane I are, independently of one another, substituted or unsubstituted C_1 - C_{12} -alkyl, C_6 - C_{15} -aryl or C_7 - C_8 -arylalkyl.

3. An oligomerization catalyst as claimed in claim 1, wherein the groups R^1 , R^2 and R^3 in the 1,3,5-triazacyclohexane I are, independently of one another, substituted or unsubstituted C_1 - C_{12} -alkyl or C_7 - C_8 -arylalkyl.

A1 > 4. An oligomerization catalyst as claimed in any of claims 1 to 3, wherein the groups R^4 , R^5 , R^6 , R^7 , R^8 and R^9 in the 1,3,5-triazacyclohexane I are, independently of one another, hydrogen or methyl.

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5. [(1,3,5-Tris(2-n-propylheptyl)-1,3,5-triazacyclohexane)CrCl₃]

6. [(1,3,5-Tris(2-ethylhexyl)-1,3,5-triazacyclohexane)CrCl₃]

A2 > 10 7. A process for preparing oligomers having up to 30 carbon atoms by reaction of an olefin or a mixture of olefins at from 0 to 150°C and pressures of from 1 to 200 bar in the presence of an oligomerization catalyst as claimed in any of claims 1 to 6.

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